Listing of Claims

1. (Previously Presented) An integrated circuit for providing a switchover from a primary power source to a secondary power source, the integrated circuit comprising:

a power source switchover circuit for receiving a supply level of the primary power source and generating (i) a reference signal based on the supply level of the primary power source and (ii) an indication signal representative of the supply level of the primary power source, the power source switchover circuit having a plurality of input terminals, a first input terminal electrically coupled to the primary power source and a second input terminal electrically coupled to a substrate of the integrated circuit, the power source switchover circuit further having a plurality of output terminals;

a comparator, electrically coupled to the power source switchover circuit, for indicating that the indication signal has decreased below the reference signal, the comparator having a first and a second input terminal connected to a first and a second output terminal of the power source switchover circuit, respectively, the comparator further having an output terminal;

a forced power source switchover circuit for detecting that the supply level of the primary power source drops below a predefined threshold level, the forced power source switchover circuit having at least one input terminal and at least one output terminal, one input terminal being electrically connected to the primary power source; and

a switchover circuit for initiating a switchover operation based upon the indication from the comparator or upon an indication that the forced power source switchover circuit detects that the supply level of the primary power drops below the predefined threshold

level, the switchover circuit having a first input terminal connected to the output terminal of the comparator and a second input terminal connected to one output terminal of the forced power source switchover circuit.

2. (Previously Presented) The integrated circuit according to claim 1, wherein the forced power source switchover circuit is reactive to the supply level of the primary power source transitioning from a steady-state supply level to below the predefined threshold level, the supply level of the primary power source transitioning faster than a predetermined negative rate of change.

3. (Previously Presented) The integrated circuit according to claim 2, wherein the negative rate of change of the supply level is approximately 150 microseconds from steady state to below the predefined threshold level.

4. (Previously Presented) The integrated circuit according to claim 1, further comprising circuitry connected to the power source switchover circuit for selectively adjusting the indication signal produced by the comparator.

5. (Previously Presented) The integrated circuit according to claim 1, further comprising circuitry connected to the forced power source switchover circuit for selectively adjusting the predefined threshold level.

6. (Previously Presented) The integrated circuit according to claim 5, further comprising a plurality of input terminals for receiving input signals to configure the switchover circuit to selectively adjust the predefined threshold level.

7. (Original) The integrated circuit according to claim 1, further comprising a delay circuit for providing a time duration for the substrate of the integrated circuit to settle from a first voltage potential to a second voltage potential upon the switchover from the secondary power source to the primary power source.

8. (Previously Presented) The integrated circuit according to claim 1, wherein the predefined threshold level associated with the forced power source switchover circuit is below the crossing level of the supply level of the primary power source and the reference signal.

9. (Previously Presented) A method for performing a power source switchover from a primary power source to a secondary power source, the method comprising the steps of:

detecting that a supply level being received from the primary power source decreases below a predefined threshold level from a steady-state operating level, the supply level of the primary power source transitioning faster than a predetermined negative rate of change, said detecting being based on (i) the supply level of the primary power source and (ii) a voltage level of a substrate of an integrated circuit;

asserting a signal indicating to switch from the primary power source to the secondary power source upon detecting that the supply level of the primary power source has decreased below the predefined threshold level;

detecting the signal indicating to switch from the primary power source to the secondary power source; and

switching from the primary power source to the secondary power source based upon detecting the signal indicating to switch from the primary power source to the secondary power source.

10. (Original) The method according to claim 9, wherein the primary power source is an external power source.

11. (Original) The method according to claim 9, wherein the secondary power source is a battery.

12. (Original) The method according to claim 9, wherein the predefined threshold level is below 2.5 volts.

13. (Previously Presented) The method according to claim 9, wherein the negative rate of change of the supply level is approximately 150 microseconds from steady state to below the predefined threshold level.

14. (Previously Presented) The method according to claim 9, further comprising the steps of:

receiving the supply level being delivered from the primary power source;

receiving the a voltage potential of the substrate of an integrated circuit;

generating a reference signal and an indication signal based on the received supply level and voltage potential; and

producing a compare signal indicative of the relative values between the reference signal and indication signal.

15. (Original) The method according to claim 14, further comprising the steps of:

receiving the compare signal and the signal indicating to force the power source switchover;

determining an occurrence of a transition of either the compare signal or the signal indicating to force the power source switchover; and

initiating a switch from the primary power source to the secondary power source upon the determination of the occurrence of a transition of the compare signal or the signal indicating to force the power source switchover.

16. (Previously Presented) A circuit comprising:

a first detection circuit for detecting a supply level of a primary power source decreasing from a steady-state supply level to a predefined threshold level faster than a

predetermined negative rate of change, the first detection circuit basing the detection on the supply level and a voltage level of a substrate of the circuit, and further generating at least one signal in response to the supply level decreasing to the predefined threshold level; and

a first switching circuit for switching from the primary power source to a secondary power source in response to the at least one signal.

17. (Previously Presented) The circuit according to claim 16, wherein the primary power source is an external power source relative to the circuit.

18. (Original) The circuit according to claim 16, wherein the secondary power source is a battery.

19. (Previously Presented) The circuit according to claim 16, wherein the predetermined negative rate of change of the supply_level is approximately 150 microseconds from steady state to below the predefined threshold level.

20. (Original) The circuit according to claim 16, further comprising circuitry for adjusting a response time for the first detection circuit.

21. (Previously Presented) The circuit according to claim 16, further comprising:

a second detection circuit for detecting a voltage threshold of the first detection circuit and the supply level being received from the primary power source, the second detection circuit producing a plurality of signals based upon the detecting;

a comparator in communication with the second detection circuit and operable to compare at least two of the signals produced by the second detection circuit and produce a comparison signal; and

wherein the first switching circuit is operable to switch from the primary power source to the secondary power source in response to the comparison signal.

22. (Original) The circuit according to claim 21, further comprising circuitry for selectively responding to the first and the second detection circuits.

23. (Previously Presented) The circuit according to claim 21, further comprising an input terminal coupled to a circuit operable to selectively disable a switchover from the primary to the secondary power source.

24 - 41. (Canceled)